- PATENT -

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE.

APPLICANT: Belkin, Anatoly S. et al. EXAMINER: Nguyen, T.

SERIAL NO.: 10/674,254 GROUP: 2687

FILED: September 29, 2003 CASE NO.: CE11195R

TITLED: Handover Method and Apparatus

Motorola, Inc. Corporate Offices 1303 E. Algonquin Road Schaumburg, IL 60196 July 11, 2006

APPEAL BRIEF UNDER 37 CFR 41.37

Mail Stop Appeal Brief - Patents Commissioner of Patents P.O. Box 1450 Alexandria, Va. 22313-1450

Commissioner:

The appellants hereby respectfully submit the following Appeal Brief in response to a final Office Action dated January 25, 2006, and a Notice of Appeal filed July 24, 2006.

1. REAL PARTY IN INTEREST

The real party in interest in this appeal is Motorola, Inc.

2 RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, be directly affected by or have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

This is an appeal from a Final Office Action dated January 27, 2006. Claims 1-39 are currently pending. Claims 13-19 and 29-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants reserve the right to pursue these allowable claims pending the resolution of this appeal. Claims 1-12, 20-28 and 36-39 stand rejected and are hereby appealed.

Applicants filed this patent application on September 29, 2003. In a first Office Action dated August 11, 2005, claims 13-19 and 29-35 were objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, claims 1-7, 23, 25-28 and 36-39 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,553,232 to Shaffer et al. and claims 8-12, 20-22 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shaffer in view of United States Patent Application Publication No. 2002/0126701 to Requena, In an Amendment dated November 10, 2005, the Appellants amended claims 1, 9 and 23 to further define the claimed invention and made amendments to claims 3-4, 6-8, 25, 28 and 36-39 to clarify the invention

In a Final Office Action dated January 26, 2006, claims 13-19 and 29-35 were still stated to be objected to as being dependent upon a rejected base claim but were otherwise allowable, claims 1-7, 23, 25-28 and 36-39 were rejected under 35 U.S.C. §

102(b) as being anticipated by United States Patent Application Publication No. 2002/0051432 to Shin and claims 8-12, 20-22 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shin in view of Requena. Applicants filed an After Final Response on March 24, 2006 traversing the rejections based on Shin. An Advisory Action dated May 5, 2006 informed Applicants that the After Final Amendment was not entered as newly amended claims raised new issues that would require further consideration and/or search. No claims were amended by the Applicants in the After Final Response. The remaining comments provided no more detail than what was in the Final Office Action and did not respond to Applicants arguments present in the After Final Response. Applicants, through the undersigned, contacted the Examiner for clarification as to why the After Final Response was not entered and considered. The Examiner stated that the case would be reviewed, and a Communication dated May 25, 2006 was filed seeking clarification. No response was received and this Appeal was therefore filed on July 24, 2006

The pending claims 1-39 are reproduced below in the attached Appendix.

4. STATUS OF AMENDMENTS

An After Final Response was filed on March 24, 2006, and is currently pending. In the After Final Response, the Appellants responded to the Examiner's rejections of claims 1-12, 20-28 and 36-39. No post-final amendments were made to the claims in the After Final Response. The Appellants then filed a Notice of Appeal on July 24, 2006.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The Applicants' invention provides a method and corresponding wireless communication unit and mobility manager for facilitating handover from one communication network to another communication network between a wireless communication unit and a peer communication unit. The method includes obtaining call information corresponding to the ongoing communication where the ongoing communication uses the first communication network; and ascertaining a handover

number for use by the wireless communication unit to originate a handover call via the second network, the handover number terminating within the first communication network for use in facilitating the handover of the ongoing communication to the second communication network. See Abstract.

Claim 1 provides for a wireless communication unit (102). The wireless communication unit comprises a transceiver (502) suitable to support an air interface with a first wireless communication network (106) and with a second wireless communication network (108). The wireless communication unit also comprises a controller (505) that is coupled to and controlling the transceiver. The transceiver is configured to obtain (1105) a handover number that terminates on a mobility manager (116) associated with the first communication network. The handover number is useable to facilitate a handover of ongoing communication of a first call on the first wireless communication network wherein the handover is from the first wireless communication network to the second wireless communication network. The handover is initiated (1107) by a handover call made by the wireless communication unit on the second communication network to the handover number while the first call is ongoing. Figures 1. 5 and 11; page 7, line 19 to page 8, line 15; page 10, line 14 to page 11, line 4; page 11, line 21 to page 12 line 6; page 12, line 23 to page 13, line 8; page 14, lines 1-11; page 15, lines 7-23; page 17, line 13 to page 18, line 24; page 21, lines 8-16; page 22, lines 3-14; page 32, line 4 to page 33, line 9, and page 33, line 19 to page 34, line 4.

Claim 9 provides for a mobility manager (116) for facilitating handover of ongoing communication of a first call between a wireless communication unit (102) and a peer communication unit (114) from a first communication network (106) to a second communication network (108). The mobility manager comprises an interface function (603) to interface to the first communication network. The mobility manager also comprises a controller (605) coupled to and controlling the interface. The controller functions to obtain (1103) call information corresponding to the ongoing communication of the first call. The controller also functions to ascertain (1105) a handover number for the wireless communication unit. The handover number terminates on the mobility manager and is used in facilitating the handover of the ongoing communication by

initiating (1107) a handover call made by the wireless communication unit on the second communication network to the handover number while the first call is ongoing. Figures 1, 6 and 11; page 7, line 19 to page 8, line 15; page 10, line 14 to page 11, line 4; page 11, line 21 to page 12 line 6; page 12, line 23 to page 13, line 8; page 14, lines 1-11; page 15, lines 7-23; page 16, lines 1-11; page 22, line 15 to page 23 line 14; page 24, lines 13-22; page 25, line 14 to page 26, line 6; page 32, line 4 to page 33, line 9, and page 33, line 19 to page 34, line 4.

Claim 23 provides a method for facilitating handover of ongoing communication of a first call between a wireless communication unit (102) and a peer communication unit (114) wherein the handover being from a first communication network (106) to a second communication network (108). The claimed method comprises obtaining (1103) call information corresponding to the first call using the first communication network. The claimed method also comprises ascertaining (1105) a handover number for the wireless communication unit. The handover number terminates within the first communication network for use in facilitating the handover of the ongoing communication by initiating (1107) a handover call made by the wireless communication unit on the second communication network to the handover number while the first call is ongoing. Figures 1 and 11; page 7, line 19 to page 8, line 15; page 10, line 14 to page 11, line 4; page 11, line 21 to page 12 line 6; page 12, line 23 to page 13, line 8; page 14, line 1-11; page 15, line 7-23; page 32, line 4 to page 33, line 9, and page 33, line 19 to page 34, line 4.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-7, 23, 25-28 and 36-39 stand rejected under 35 U.S.C. § 102(b) as being anticipated by United States Application Publication No. 2002/0051432 to Shin. Claims 8-12, 20-22 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shin in view of United States Patent Application Publication No. 2002/0126701 to Requena.

ARGUMENT

(i) Rejection under 35 U.S.C. §112, first paragraph:

None.

(ii) Rejection under 35 U.S.C. §112, second paragraph:

None.

(iii) Rejection under 35 U.S.C. §102:

Claims 1-7, 23, 25-28 and 36-39 are rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent Application Publication No. 20020051432 to Shin. Applicants respectfully traverse this rejection. The present invention, as found in independent claims 1 and 23, is directed to handing over a call of a wireless communication unit from a first wireless communication network to a second communication network. To make the handover, the present invention initiates a handover call while the first call is ongoing. The handover call is made to a separate handover number while the wireless communication unit is on the second communication network. The handover number is used to facilitate the handover of the ongoing communication of the first call. Moreover, the handover number terminates on a mobility manager that is separate from the network switching devices and is a part of the first network. Thus, a second call is made to the second number where the second call is made to the mobility manager in the first network.

Shin is directed to a method and system of performing a handoff between different mobile communication systems having a first and second cells and a gateway cell. The handoff is performed using a gateway, wherein one frequency is used by the first cell and a first sector of the gateway, and a second frequency is used by the second cell and a second sector of the gateway. As the signal in the first cell weakens, the gateway provides a connection into the second cell as the signal in that cell strengthens. A switching center is provided in each of the first and second communication systems.

The switching center in the second communication system operates to translate and switch the subscriber number when a handover goes from the first communication system to the second communication system.

From the comments in the Final Office Action and the paragraphs cited from Shin, the controller of the wireless communication unit of claim 1 is equated to the controller (32) in the gateway station (30). Thus, the wireless communication unit of the present invention is being equated to the gateway station. The present invention is directed to the operation of the wireless communication unit and obtaining the handover number used to accomplish the handover. The wireless communication unit is different from the gateway station or another network device. The gateway station supports a wireless communication unit, but is not that equivalent to the wireless communication unit. The gateway station and the wireless communication unit are a part of a mobile communication system, but each unit performs different functions and operates differently. It is respectfully submitted the wireless communication unit of the present invention is not equivalent to the gateway station relied upon as prior art. Shin does not discuss how a wireless communication unit acquires a handover number and makes a handover call. It only discusses the gateway station assisting in a handoff. Thus, the gateway does not disclose the claimed wireless communication unit.

Without being specific, the Final Office Action states that Shin discloses "obtaining a handover number that terminates on a mobility manager associated with the first communication network." As described in the Specification, a handover number may be called from or by a wireless communication unit using the second network. See page 6, lines 15-16. Furthermore, the Specification states that "the handover number is chosen or provided or selected such that a call placed by the wireless communication unit after appropriate registration, etc. to the handover number via the second communication network will be routed through the network switching function 112 or MSC to the network switching function 110, and terminate within the first communication network at the other network entity, such as the mobility manger 116." Page 16, lines 3-8. Accordingly, the handover number is a specific number that is used by the wireless communication unit to call for the handoff. As required by the claim, the handover

number also refers back to the mobility manager associated with the first network. Thus, the handover number is a number that refers to the first network.

Shin, on the other hand, teaches that all handoffs are processed by three standard messages: PSMM, EHDM and HCM. See Paragraph [0042]. As explained in the same paragraph, none of these messages is used for obtaining a handover number that terminates on a mobility manager associated with the first communication network. The paragraphs cited in the Final Office Action and the Advisory Action, i.e. [0005], [0007] and [0027] do not mention or refer in any way to a handover number to be called nor do they make reference to handover call that is made by using the handover number. These paragraphs only refer to the gateway station.

In addition, Shin does not make reference to making a second call, e.g. the handover call, while the first call is still ongoing. All that is done by Shin's mobile station is the receiving and sending of control channel messages like EHDH and PSMM. See Paragraphs [0042]-[0047]. The PSSM message clearly can not be considered to be initiating a new call since such messages are informing a base station that a cell or sector becomes a DROP candidate, thereby suggesting the ongoing call will be dropped with the first network. Thus, Shin does not disclose the claimed handover call.

In the Advisory Action, it is once again stated that Shin and Requena teach the handover number and the second call, or handover call made to the handover number. The Advisory Action continues to cite the same sections within Shin that Applicants have demonstrated do not disclose the present invention. The Advisory Action quotes from Shin saying "a switching center 23 is provided for translating and switching a subscriber number through the control station 22." Thus, the Advisory Action focuses on Shin's switching center, which is in the second mobile communication system 20, to translate and switch the subscriber number. This is done with the assistance of the control station 22, which is also in the second mobile communication system. This is the focus of the gateway and not the wireless communication unit. Moreover, Shin does not provide any other information about how this translation and switching occurs. The present invention, however, is focused on providing a handover number and making a handover call. There is no disclosure in Shin that the switching center is making a call, and

translating a number is not equivalent to the claimed handover number, which is a unique number.

As ordinary meaning of translate is "1a: to bear, remove or change from one place, state, form or appearance to another . . . TRANSFORM . . . 2 b: to transfer from set of symbols to another" Merriam Webster's Collegiate Dictionary, Tenth Edition (1993). In the context of handovers, which is consistent with these definitions, the translated number disclosed by Shin is a form of the original number of the wireless communication unit. In other words, an original number is transformed into another a number for handover purposes in the context of Shin. But the handover number of the present invention is a wholly different number. This is supported by the Specification and the claims. In claims 1 and 23, the handover number terminates on the mobility manager, which is a part of the first communication network, and is not associated with the wireless communication unit or any components of the second communication network. For Shin to support disclose the handover number and making the handover call to the handover number claimed for the present invention, the switching center or the control station must be in the first mobile communication system and a new number must terminate on that switching center. As stated, Shin's switching center and control station used in handoff are in the second mobile communication system and they only translate the original number. Thus, Shin does not disclose the claimed handover number or handover call.

In view of the foregoing, it is respectfully submitted that Shin does not disclose the use of a handover number usable to facilitate a handover of ongoing communication of a first call of a wireless communication unit on a first wireless communication network wherein the handover is from the first communication network to the second communication network and wherein the handover is initiated by a handover call made by the wireless communication unit on the second communication network to the handover number while the first call is ongoing. Applicants therefore submit that independent claims 1 and 23 are not anticipated by Shin. As claims 2-7 depend upon claim 1 and claims 25-28 and 36-39 depend upon claim 23, Applicants also submit that

the dependent claims are not anticipated by Shin. It is therefore respectfully requested that the rejection under Section 102(e) be withdrawn.

(iv) Rejection under 35 U.S.C. §103:

Claims 8-12, 20-22 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shin in view of United States Patent Application Publication No. 2002/0126701 to Requena. Applicants respectfully traverse this rejection for the reasons given above regarding the inapplicability of Shin. Independent Claim 9 is directed to the mobility manager described above and is similar to claims 1 and 23. Claim 9 includes the handover number, which terminates on a mobility manager in the first communication network, to facilitate the handover of the ongoing communication so that a handover call is made by the wireless communication unit on the second communication network to the handover number while the first call is ongoing. As discussed above, the handover number and the handover call is not disclosed by Shin. In addition, these elements are not disclosed by Requena. Requena is directed to obtaining spatial information for use in an Internet Protocol network. The spatial information is used in providing the presence service in association with other user information, such as user identity.

The Office Action does note that the mobile station sets up a communication channel with a destination base station while maintaining the initial communication channel with the first base station. The present invention, however, is directed to the handover call made to the claimed mobility manager that is in the first communication network and not to a base station in the second communication network as suggested by Shin and Requena. Shin and Requena do not provide any information on the handover number because the mobile station does not initiate a second call, which uses the handover number. It appears that Shin and Requena related to standard CDMA calls and handoffs while the present invention relates to handovers between a first communication network and a second communication network, where one of the networks can be cellular network and the other network can be a wireless local area network.

In view of the foregoing, it is respectfully submitted that the combination of Shaffer and Requena does not disclose, teach or otherwise suggest the handover number and handover call of the present invention. Accordingly, it is submitted that independent claim 9 is non-obvious over the cited references. In addition, it is submitted that claim 8, which depends upon claim 1, claims 10-12 and 20-22, which depend upon claim 9 and claim 24, which depends upon claim 23, are also non-obvious over the cited references for the same reasons. Applicant respectfully request that the rejection under Section 103(a) be withdrawn.

8. CONCLUSION

For the above reasons, the appellants respectfully submit that the rejections of claims 1, 20 and 27 under 35 U.S.C. §102(e) as being anticipated by Archer are in error and should be reversed and the claims allowed.

Please charge any fees associated herewith, including extension of time fees, to 50-2117.

Respectfully submitted, Belkin, Anatoly S., et al.

SEND CORRESPONDENCE TO:

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APPENDIX

(Previously Presented) A wireless communication unit comprising:
 a transceiver suitable to support an air interface with a first wireless
 communication network and with a second wireless communication network; and

a controller, coupled to and controlling the transceiver, for obtaining a handover number that terminates on a mobility manager associated with the first communication network, the handover number useable to facilitate a handover of ongoing communication of a first call on the first wireless communication network wherein the handover is from the first wireless communication network to the second wireless communication network and wherein the handover is initiated by a handover call made by the wireless communication unit on the second communication network to the handover number while the first call is ongoing.

- (Original) The wireless communication unit of claim 1, wherein the controller controls the transceiver to obtain the handover number from a network entity within the first communication network.
- (Previously Presented) The wireless communication unit of claim 1, wherein the controller controls the transceiver to forward information regarding the first call to the mobility manager to facilitate the handover.
- (Previously Presented) The wireless communication unit of claim 1, wherein the controller, when a pending handover is indicated, controls the transceiver to initiate the handover call
- (Original) The wireless communication unit of claim 4, wherein the controller controls the transceiver to switch the ongoing communication to the second

wireless network and to discontinue the ongoing communication with the first communication network when the handover call has been connected.

- (Previously Presented) The wireless communication unit of claim 1, wherein the first wireless communication network is at least one of an IEEE 802.11 Wireless Local Area Network and Bluetooth and the second wireless communication network is a wireless wide area network
- 7. (Previously Presented) The wireless communication unit of claim 1 wherein the controller obtains the handover number when the first call is set up.
- (Previously Presented) The wireless communication unit of claim 7
 wherein the handover number is obtained by including it in at least one of a Session
 Initiation Protocol (SIP) INVITE message and a response message to the SIP INVITE
 message.
- 9. (Previously Presented) A mobility manager for facilitating handover of ongoing communication of a first call between a wireless communication unit and a peer communication unit from a first communication network to a second communication network, the mobility manager comprising:

a interface function to interface to the first communication network; and a controller coupled to and controlling the interface function to:

obtain call information corresponding to the ongoing communication of the first call; and

ascertain a handover number for the wireless communication unit, the handover number terminating on the mobility manager for use in facilitating the handover of the ongoing communication by initiating a handover call made by the wireless communication unit on the second communication network to the handover number while the first call is ongoing.

- (Previously Presented) The mobility manager of claim 9 wherein the controller further obtains the call information from at least one of the wireless communication unit and a network server.
- 11. (Previously Presented) The mobility manager of claim 9 wherein the first communication network is at least one of an IEEE 802.11 Wireless Local Area Network and Bluetooth and the second communication network is a wireless wide area network.
- (Previously Presented) The mobility manager of claim 9 wherein the controller cooperatively with the interface function is operable to receive the handover call
- 13. (Original) The mobility manager of claim 12 wherein the handover call is received from a network switching function for the first communication network and the controller further operates to facilitate connecting the peer communication unit to the handover call and sending a connect indication for the handover call to the wireless communication unit.
- 14. (Original) The mobility manager of claim 13 wherein the connecting the peer communication unit to the handover call further comprises one of a) transferring the ongoing communication of the peer communication unit to the handover call, b) conferencing the ongoing communication of the peer communication unit, the ongoing communication of the wireless communication unit, and the handover call together, and c) rerouting the ongoing communication with the peer communication unit to coincide with the routing of the handover call at the network switching function.
- 15. (Original) The mobility manager of claim 13 wherein the controller operates to facilitate the handover call by initiating a message that results in routing the ongoing communication of the peer communication unit to the handover call.

- (Original) The mobility manager of claim 15 wherein the message is further initiated on behalf of the wireless communication unit.
- 17. (Original) The mobility manager of claim 15 wherein the message is further directed to the network switching function.
- 18. (Original) The mobility manager of claim 15 wherein the message is directed to a first network switching function and responsive to the message, a corresponding message is directed to a second network switching function that is supporting the ongoing communication with the peer communication unit.
- 19. (Original) The mobility manager of claim 18 wherein a response message initiated by the peer communication unit is received by the controller via the interface function and this response message triggers sending the connect indication to the wireless communication unit.
- 20. (Previously Presented) The mobility manager of claim 9 wherein the ascertaining the handover number further comprises at least one of obtaining the handover number from the wireless communication unit, assigning and providing the handover number to the wireless communication unit, and obtaining the handover number from another network server.
- 21. (Previously Presented) The mobility manager of claim 9 wherein the interface with the first communication network is at least one of a Session Initiation Protocol (SIP) interface and an H.323 interface.
- (Previously Presented) The mobility manager of claim 20 wherein the handover number is included in at least one of a SIP INVITE message and a response message to the SIP INVITE message.

23. (Previously Presented) A method for facilitating handover of ongoing communication of a first call between a wireless communication unit and a peer communication unit wherein the handover being from a first communication network to a second communication network, the method comprising:

obtaining call information corresponding to the first call using the first communication network; and

ascertaining a handover number for the wireless communication unit, the handover number terminating within the first communication network for use in facilitating the handover of the ongoing communication by initiating a handover call made by the wireless communication unit on the second communication network to the handover number while the first call is ongoing.

- 24. (Previously Presented) The method of claim 23 wherein the obtaining the call information further comprises obtaining the call information from at least one of the wireless communication unit and a network entity within the first communication network.
- 25. (Previously Presented) The method of claim 23 wherein the first communication network is at least one of an IEEE 802.11 Wireless Local Area Network and Bluetooth and the second communication network is a wireless wide area network.
- 26. (Original) The method of claim 23 further comprising receiving a handover call originating from the wireless communication unit using the second communication network that is directed to the handover number.
- (Original) The method of claim 26 wherein the receiving the handover call results from determining that a handover condition is indicated.

- 28. (Previously Presented) The method of claim 27 wherein the determining the handover condition is performed by at least one of the wireless communication unit and another network entity within the first communication network.
- 29. (Original) The method of claim 26 wherein the handover call is received at a network switching function for the first communication network and a network entity operates to facilitate connecting the peer communication unit to the handover call and to send a connect indication for the handover call to the wireless communication unit.
- 30. (Original) The method of claim 29 wherein the connecting the peer communication unit to the handover call further comprises one of a) transferring the ongoing communication of the peer communication unit to the handover call, b) conferencing the ongoing communication of the peer communication unit, the ongoing communication of the wireless communication unit, and the handover call together, and c) rerouting the ongoing communication with the peer communication unit to coincide with the routing of the handover call at the network switching function.
- 31. (Original) The method of claim 29 wherein the network entity operates to facilitate the handover call by initiating a message that results in routing the ongoing communication of the peer communication unit to the handover call.
- (Original) The method of claim 31 wherein the message is further initiated on behalf of the wireless communication unit.
- (Original) The method of claim 31 wherein the message is further directed to the network switching function.
- 34. (Original) The method of claim 31 wherein the message is directed to a first network switching function and then to a second network switching function and then to the peer communication unit.

- 35. (Original) The method of claim 34 wherein a response message initiated by the peer communication unit is received by the network entity and this response message triggers sending the connect indication to the wireless communication unit.
- 36. (Previously Presented) The method of claim 23 wherein the ascertaining the handover number further comprises at least one of obtaining the handover number from the wireless communication unit, assigning and providing the handover number to the wireless communication unit, and obtaining the handover number from another network server.
- (Previously Presented) The method of claim 23 wherein the first communication network uses at least one of a Session Initiation Protocol (SIP) interface and an H 323 interface.
- 38. (Previously Presented) The method of claim 37 wherein the ascertaining the handover number is done during the setup of the first call.
- (Previously Presented) The method of claim 36 wherein the handover number is included in at least one of a SIP INVITE message and a response message to the SIP INVITE message.

EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132, nor has any other evidence been entered by the Examiner and relied upon by the appellant.

Application No. 10/674,254

Belkin et al. CE11195R

RELATED PROCEEDINGS APPENDIX

The appellants and appellants' representative know of no other appeal, interference, or judicial proceeding that may be related to, directly affect or be directly affected by, or have a bearing upon the Board's decision in the pending appeal.